

# Parents' Socioeconomic Status and Health Literacy Domains among Shokrof Preparatory School Students , Shokrof Village, Algarbia Governorate, Egypt

Wafaa Hassan Alseraty

Assistant professor of pediatric nursing, faculty of nursing, Tanta University, Egypt

\*Corresponding author email wafaa.elsoreetyhassan@yahoo.com

## Abstract

Parents' socioeconomic status is mainly impact their children health outcomes, cognitive , social and emotional development. It also had a great impact on children health-related knowledge, health-related attitudes, health-related communication, health-related behavior, and self-efficiency level. Enhancing health literacy domains are the keystone in health promotion. Health literacy has become an important public health issue today. It considered as an indicator of development in modern political science. This study aimed to assess the correlation between parents' socioeconomic status and health literacy domains among Shokrof preparatory school students. 50 students were chosen by systematic random sample method from Shokrof preparatory school. Data were collected from 1st of October to the end of December 2014. From the study results highly income, more educated and had stable job parents their children had high health related knowledge, highly communicated about health topics, had appositive attitude toward health, had healthy behavior and efficient in solving their problems. Monthly income, mothers' education and work positively correlate with the studied subjects health related knowledge, health related communication, health related attitude, health related behavior and self-efficiency level. On the other hand for generalization of the study results it should be conducted on a big sample size at different places to investigate the impact of family socioeconomic state on children different life aspects and their health outcomes.

**Keywords:** Socioeconomic status, health literacy domains, Shokrof preparatory school and Shokrof village.

## 1. Introduction

### 1.1 background

Socioeconomic status (SES) mean educational level, occupation status and income, it is an important determinant of health, well-being and shapes people experience and behavior (Vellymalay2012). Parents' socioeconomic status have an important influence on the their children personality development , health outcomes and academic success of their children (Azhar, et. al., 2013 and Reay, 2004). Family socioeconomic status is strongly correlated both with early and late literacy in the school years (Waldfogel, 2012). Childhood circumstances such as socio-economic status and family structure have been found to influence psychological, psychosocial attributes and total quality of life. In general, children educational outcomes have been shown to be influenced by family background in many different and complex ways For example, the socio-economic status of families has been consistently found to be an important variable in explaining variance in student achievement. Parents with higher socio-economic status are able to provide their children with the financial support and home resources for individual learning. They are also more likely to provide a more stimulating home environment to promote cognitive development (Schulz, 2005). Families with low socioeconomic status often lack the financial, social, and educational supports that characterize families with high socioeconomic status. Poor families also may have inadequate or limited access to community resources that promote and support children's development and school readiness. Parents may have inadequate skills for such activities as reading to and with their children, and they may lack information about childhood immunizations and nutrition. Low maternal education and minority-language status are most consistently associated with fewer signs of emerging literacy and a greater number of difficulties in preschoolers." Having inadequate resources and limited access to available resources can negatively affect families' decisions regarding their young children's development and learning. As a result, children from families with low socioeconomic status are at greater risk of entering kindergarten unprepared than their peers from families with median or high socioeconomic status (Okioga, 2013).

Health literacy defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Enhancing health literacy is a keystone in health promotion(Luo, & Waite, 2005 and Logan, 2007). Health literacy domains include health-related behavior, health-related knowledge, health-related attitudes, health-related communication and self-efficiency. Children with parents who have a high educational background were more knowledgeable and communicated more about health topics (Schmidt et. al., 2010). Maternal literacy plays a powerful role in child growth and cognitive development. There is an association between higher years of schooling in mothers and lower incidence of illness, better immunization status, healthier nutritional position and improved scores of

cognitive tests ( Ali, et al., 2011).

Self-efficacy is the belief in one's capabilities to achieve a goal or an outcome. The concept of self-efficacy, introduced and developed by Albert Bandura (1977), is based on the social cognitive theory, which states that individuals act based on multiple influences from both the internal and external worlds. Self-efficacy describes how cognitive functioning affects new behavior patterns. Bandura states, "An efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes" ( McElroy, 2002). It is a cognitive self-fulfilling prophecy: if a person believes that he or she will be successful, then success is more likely to occur. If success is not the expected outcome, the individual will avoid the activity or not expend full effort and thus will not be successful. Students with a strong sense of efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated (Bandura, 1977). Mother education has appositive impact on their children heath, behavior and self-efficacy (Currie & Moretti 2007)

#### 1.2 Shokrof village:

Is one of the Garbia governorate villages, its population is 8,018 according to population census 2006, illiteracy percentage in the village is 50.21% of people after 10 years.

#### 1.3 Shokrof preparatory school:

It is the only preparatory school in the village lies in the Alzeraea street its capacity is 160 students from both sexes.

#### 1.4 Magnitude of the problem:

Due to the higher percentage of illiteracy and the lower socioeconomic standard among Shokrof village population the researcher tried to assess the influences of parents' socioeconomic status on health literacy domains among students of Shokrof preparatory school.

### 2. Subjects and methods

#### 2.1 Aim

This study aimed to assess the correlation between parents' socioeconomic status and health literacy domains among Shokrof preparatory school students.

#### 2.2 Research question

Is there is a correlation between parents' socioeconomic status and study subjects health literacy domains?

#### 2.3 Type of the study

Cross sectional study.

#### 2.4 Design: descriptive design

#### 2.5 Sample

50 students from both sexes were chosen by systematic random sample method their age ranged from 12-16 years, the starting point of sampling chosen randomly from the list of 150 students is 1 after that every third student was chosen from a list. 10 students were included in the pilot study after that they omitted from the main study.

#### 2.6 Tools: Data were collected through:

- (a) Questionnaire sheet: to collect data about parents' & children socioeconomic state .
- (b) Health literacy domains scale: Designed by Schmidt, et. al, in 2010. it was translated and used by the researcher to measure children health literacy domains. It has 5 subscales as follow:

1. 1<sup>st</sup> subscale: It concerned with assessment of children health related knowledge, it has items about; tooth health, vaccination and nutrition. The responses ranged between 0-1 (incorrect answer was scored as 0 and one for the correct answer). Total responses were collected students whom answer < 50% of the correct answer considered had poor knowledge level and students whom answer > 50% of the correct answers considered had good knowledge level
2. 2<sup>nd</sup> subscale: It concerned with assessment of health related communication with parents and friends, it has items about; nutrition and tooth health. The responses ranged from 0-1 ( not communicated - communicated). The total responses were collected students whom scored < 50% of the score considered had poor health communication and students whom scored > 50 % considered had good heath communication.
3. 3<sup>rd</sup> subscale: It concerned with assessment of health related attitude, it has items about; general health, tooth health, nutrition and physical activity. The responses ranged from 0-1 (not important -important). The total

responses were collected students whom scored < 50% considered health is not important to them and students whom scored > 50 % considered health is important to them.

4. 4<sup>th</sup> subscale: It concerned with assessment of health related behavior it includes items about; physical activities, nutrition and tooth brushing. The responses ranged between 0-1 (non-healthy behavior- healthy behavior). The total responses were collected students whom scored < 50% considered had non healthy behavior and students whom scored > 50 % considered had healthy behavior.

5. 5<sup>th</sup> subscale: It concerned with assessment of self-efficacy level. It was measure the students' ability to solve problem, think about the solution and the ability to use this solution. Self-efficacy level was measured with a two-point rating scale format was adopted for the items. The responses ranged from 0-1 (0 mean student not efficient to solve his problems and 1 mean student efficient to solve his problems). The total responses were summed students whom scored < 50% considered not efficient in solving their problems and students whom scored > 50 % considered efficient in solving their problems. Validity of the study tools: The study tools were handed to 2 professors (pediatric nursing & public health medicine) to assess its coverage, relevancy and validity. Necessary modifications were done to accommodate the study aim.

#### 2.7 Ethical considerations:

Confidentiality of information was guaranteed for each study subject. Written agreement was a prerequisite to include each study subject.

#### 2.8 Administrative design:

An official permission was obtained from head of the school before conducting the study.

#### 2.9 Pilot study:

A pilot study was carried out on 10 students to test the clarity and simplicity of the study tools. Necessary modification were done in tools and students whom shared in pilot study were excluded later from the main study sample.

#### 2.10 Methods:

A review of related literature was carried out to get acquainted with the various aspects of the research problem and the study tools. The researcher explains the study aim to the school head to take permission for data collection. Data were collected from 1<sup>st</sup> of October- to the end of December 2014. 1<sup>st</sup> year students were met in Sunday and Wednesday for two sessions, 2<sup>nd</sup> year students were met in Monday and Wednesday for two sessions and 3<sup>rd</sup> year students were met in Tuesday and Wednesday for two sessions. Each session about 35-40 minutes; all sessions were chosen according to school regulation and schedule of activity. For all years 1<sup>st</sup> session for orientation , introducing the study aim and establish an informal friendly atmosphere to facilitate communication between the students and the researcher. The 2<sup>nd</sup> session for fill out the study tools and ending the study.

#### 2.11 Statistical analysis

The collected data were organized, tabulated and statistically analyzed using SPSS version 19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. Pearson correlation were used to assess correlation between socioeconomic variables and health literacy domains. The level of significant was adopted at p<0.01.

### 3. Results

Table 1 represent social data of the studied subjects; it was clear that 52% of the studied subjects were female, 50% of them aged from 11- < 13 years and 76% of them had 1-4siblings. Table 2 refer to Pearson Correlation of the studied subjects monthly income and health literacy domains; From table 2 there was a significant correlation between parents' monthly income and study subjects health literacy domains; 66% of parents had monthly income < 1000 pound , 79% of their children had poor health related knowledge, 87% had poor health related communication, 85% of them their attitude toward health not important, 87% had non-healthy behavior and 85% not efficient in solving their problems compared with 22% of the studied subjects parents had monthly income 2000- 3000 pound 91% of their children had good health related knowledge, 90% had good health related communication, all of them their attitude toward health is important, 91% of them had healthy behavior and efficient in solving their problems.

Table 3 reflect a correlation between fathers' education and study subjects' health literacy domains with no significant differences were found, all subjects whom their fathers' had post university education had good health related knowledge, good health related communication, their attitude toward health is important and they are efficient in solving their problems. Also 32% of the studied subjects fathers' not educated 94% of them had poor health related knowledge & poor health related communication, all of them their attitude toward health is

not important, had non healthy behavior and not efficient in solving their problems. Table 4 contain Pearson correlation of mothers' education and the studied subjects health literacy domains. Regarding mothers' education there was a significant correlation between mothers' education and study subjects health literacy domains; 46% of mothers were not educated and 91% of their children had poor health related knowledge, poor health related communication, their attitude toward health not important, had non-healthy behavior and all of them not efficient in solving their problems compared with 4% of the study subjects whom their mother were post graduated all of them had good health related knowledge, good health communication, their attitude toward health is important, had healthy behavior and efficient in solving their problems.

Table 5 represent Pearson Correlation of fathers' work and the studied subjects health literacy domains. Regarding fathers' work there was a correlation between fathers' work and studied subjects' health literacy domains with no significant differences were found; 42 % of fathers were not worked 95% of their children had poor health related knowledge, 90% had poor health communication, 95% their attitude toward health not important & had non-healthy behavior and not efficient in solving their problems. Compared with 12 % of the studied subjects' whom their fathers working as engineer 83 % of them had good health related knowledge, all of them had good health related communication ,83% of them their attitude toward health is important & had healthy behavior and all of them efficient in solving their problems. Table 6 contain Pearson correlation of mothers' work and the studied subjects health literacy domains. Regarding mothers' work there was a significant correlation between mothers' work and the studied subjects health literacy domains; 36 % of the studied subjects' mothers working in government 89 % of their children had good health related knowledge, 82% good health related communication , 83% their attitude toward health is important , 82% had healthy behavior and 85% efficient in solving their problems compared with 54 % of mothers were not work 93% of their children had poor health related knowledge, 89% of the studied subjects had poor health related communication , 98% of them their attitude toward health not important, all of them had non-healthy behavior and 96 % them not efficient in solving their problems .

#### 4.Discussion

This study aimed to assess the correlation between parents' socioeconomic status and studied subjects health literacy domains. The results of the present study revealed a significant correlation between parents' monthly income and study subjects health related knowledge, health related communication, health related attitude, health related behavior and self-efficiency as clear from table 2; Milligan and Stabile in 2009 agree with the current study finding where they mentioned income has a great effect on children health outcomes and behavior, Hartas in 2012 also found income and other socioeconomic factors reduce children's literacy, improve social skills development and healthy behavior. Mayer in 2002 stated parental income has appositive effects in children cognitive test scores, socio-emotional well-being, mental health, educational outcomes, and future economic status.

Regarding parents' education, there was a correlation between parents' education level and their children health literacy domains; from the study results it is clear that children of highly educated parents' were more knowledgeable, communicated more about health topics, their attitude toward health is important, had healthy behavior and more efficient in solving their problems. This finding agree with Schmidt, et. al., in 2010 whom mentioned that; children with parents who have a higher educational background were more knowledgeable and communicated more about health topics and added parents lower literacy level associated with their children lower health knowledge , lower health behavior and lower use of health service . Also Wardle & Steptoe in 2003 mentioned more educated participant had healthy behavior. Hartas in 2012 found maternal educational qualifications effects on their children language/literacy and behavior. Also Gratz in 2006 claim that parents' personal educational backgrounds and economic backgrounds have a significant effect on their children's education and knowledge. Also Ali, et. al., in 2011 clarify educated mothers leads to educated and knowledgeable nations. Currie & Moretti in 2007 found mother education has appositive impact on their children heath, behavior and self-efficiency. Rueden et. al., in 2006 support the current finding where they mentioned exposure to low parental educational status may result in a decreased health related quality of life, well- being and self -efficiency. Education can increase people's knowledge and cognitive skills, enabling them to make better-informed choices among the health-related options available for themselves and their families, including those related to obtaining and managing medical care .

The current study finding suggest a correlation between the parents' work and the studied subjects health literacy domains; parents of stable work nature like engineer or governmental work their children had good health related knowledge, had good health related communication, had healthy attitude , had healthy behavior and more efficient in solving their problems; Palmer in 2009 found that mothers' and fathers' educational level and occupational status were related positively to their children's adulthood occupational status and behavior, also Hanson in 2007; mentioned there was some associations between socioeconomic state and health behaviors of adolescents and he added in our review of the literature, we found that in the majority of

studies, the daily living/lifestyle behaviors of diet and physical activity were significantly associated with socioeconomic state exist during adolescence. Kumar et al., in 2014 found parents socioeconomic state were significantly related to the their children health outcomes and behavior.

### 5. Study limitations

It is difficult to make a large generalization from a single study, study subjects were selected from single governmental school therefore the results generalization should be restricted.

### 6. Conclusion

Parents' socioeconomic state were correlated with their children health related knowledge, health related communication, health related attitude, health related behavior and self-efficacy level.

### 7. Recommendations

The study should be conducted on a big sample size in different places not in school only to investigate the true impact of family socioeconomic state in children different life aspects and stages.

### 8. Acknowledgement

I would like to thanks firstly God for completion of this work, secondly thank all students whom willing to participate in the study & their parents and finally thank the head of the school and all teachers whom permit us to conduct the study.

### References

Ali ,S., Chaudry,T.,& Naqvi,Q., (2011): Effect of maternal literacy on child health:Myth or reality, Ann. Pak. Inst. Med. Sci.7(2):100-103

Azhar,M., Nadeem,S., Naz,F., Perveen,F., & Sameen,A.,(2013): Impact of parental education and socioeconomic statuses and academic achievement of university students, International Journal of Academic Research and Reflection, 1 (3): 27-33.

Bandura, A., (1977):Self-efficacy: Toward a unifying theory of behavioral change. *Journal of Psychological Review*, 84(2), 191-215.

Currie, J., & Moretti, E., (2007) : Mother 's education and the intergenerational transmission of human capita : evidence from collage opening. *Quarterly Journal of economic* 118,(7):1495-1532.

Gratz, J., (2006): The Impact of Parents' Background on their Children's Education, *Research Report* 433:18-22.

Hanson, M., (2007): Socioeconomic Status and Health Behaviors in Adolescence: A Review of the Literature, *J Behav Med.*, 30(11) :263–285.

Hartas, D., (2012): Families' social backgrounds matter: Socio-economic factors, home learning and young children's language, literacy and social outcomes, *British Educational Research Journal*, 37, ( 6) : 893–914.

Kohlmann,T.,(2010): Health-related behavior: knowledge, attitudes, communication and social status in school children in Eastern Germany, *health education research* ,4(25): 542–551.

Kumar,S., Kroon,J.,& Laloo,R., (2014): A systematic review of the impact of parental socio-economic status and home environment characteristics on children's oral health related quality of life, *Health and Quality of Life Outcomes*, licensee BioMed Central Ltd, 12(3):41.

Logan, A., (2007): Clinical classroom or personal education: Attitudes about health literacy, *Journal of Medical Library Association*, 95(2): 127-137.

Luo, Y., & Waite, L. , (2005): The impact of childhood and adult SES on physical, mental and cognitive well-being in later life. *Journals of Gerontology* 60(B), S93-S101.

Mayer,S., (2002): The Influence of Parental Income on Children's Outcomes , Knowledge Management Group, Ministry of Social Development, Te Manatu Whakahiato Ora: 4-74.

Milligan, K., & Stabile, M., (2009): Child Benefits, Maternal Employment, and Children's Health: Evidence from Canadian Child Benefit Expansions." *American Economic Review* 99 (2): 128-32.

McElroy,k.,(2002): Factors Associated With High Self-Efficacy Among California's Public Child Welfare Workers, Thesis in partial fulfillment of the requirements for the degree Master of Social Work:1-97.

Okioga,C., (2013): The Impact of Students' Socio-economic Background on Academic Performance in Universities, a Case of Students in Kisii University College, *American International Journal of Social Science*, 2 ( 2) :38-46.

Palmer, M., (2009) :Long-term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations. *National Institutes of Health*, Wayne State Univ Press., 55(3): 224–249.

Reay, D., (2004): Education and Cultural Capital: The Implications of Changing Trends In Education Policies.

Cultural Trends, 13(50):73-86.

Rueden, U., Gosch, A., Rajmil, L., Bisegger, C., & Sieberer, U., (2006): Socioeconomic determinants of health related quality of life in childhood and adolescence: results from a European study, *J Epidemiol Community Health*, 60(17):130-135.

Schmidt, W, Fahland, R., Franze, M., Splieth, C., Thyrian, R., Plachta, S., Danielzik, S., Hoffmann, W., & Wardle, J., & Steptoe, A., (2003): Socioeconomic differences in attitudes and beliefs about healthy lifestyles, *Journal of Epidemiology and Community Health*, 57(7): 440-443.

Schulz, W., (2005): Measuring the socio-economic background of students and its effect on achievement in PISA 2000 and PISA 2003, Paper prepared for the Annual Meetings of the American Educational Research Association in San Francisco, 7-11 April 2005.

Vellymalay, S., (2012): The Impact of Parent's Socioeconomic Status on Parental Involvement at Home: A Case Study on High Achievement Indian Students of a Tamil School in Malaysia, *International Journal of Academic Research in Business and Social Sciences*, 2 (8):11-24.

Waldfogel, J., (2012): The Role of Out-of-School Factors in the Literacy Problem, [www.futureofchildren.org](http://www.futureofchildren.org) 22 ( 2): 39-54.

Wardle, J., & Steptoe, A., (2003): Socioeconomic differences in attitudes and beliefs about healthy lifestyles, *Journal of Epidemiology and Community Health*, 57(7): 440-443.

Table 1: Social data of the studied subjects.

Variables	No = 50	%
Sex :		
• Male	24	48.0
• Female	26	52.0*
Age in years:		
• 11-	25	50.0*
• 13-	18	36.0
• >15	7	14.0
Academic year:		
• 1 <sup>st</sup>	17	34.0
• 2 <sup>nd</sup>	18	36.0
• 3 <sup>rd</sup>	15	30.0
Sibling:		
• 1- 4	38	76.0*
• 5- 8	19	24.0

Table 2: Pearson Correlation of parents' monthly income and the studied subjects health literacy domains.

Health literacy domains	Monthly Income in pound:		
	< 1000 (66%)	<2000 (12%)	3000 (22%)
1.0 Health related knowledge :	Pearson correlation .599** P =.000		
• Good.	21%	66%	91% *
• Poor	79%*	34%	9%
2.0 Health related communication:	correlation .700** P =.000		
• Good.	13%	40%	90%*
• Poor	87%*	60%	10%
3.0 Health related attitude:	Correlation .664** P =.000		
• Important .	15%	65%	100%*
• Not important.	85%	35%	0.0
4.0 Health related behavior:	Correlation .654** P =.001		
• Healthy	13%	70%	91%*
• Non healthy	87%	30%	9%
5.0 Self-efficacy :	Correlation .631** P =.000		
• Efficient	15%	66%	91%*
• Not efficient	85%	34%	9%

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Table 3: Pearson Correlation of fathers' education and the studied subjects health literacy domains.

Health literacy domains	Fathers' education			
	Basic 34%	University 32 %	Post 2%	Not educated 32 %
1. Health related knowledge :	Correlation .080		P=.580	
	• Good.	6%	94%	100%*
	• Poor	94%	6%	0.0
2. Health related communication:	Correlation .69		P=.632	
	• Good.	2%	94%	100%*
	• Poor	98%	6%	0.0
3. Health related attitude:	Correlation .108		p=.455	
	• Important .	0.0	100%	100%*
	• Not important.	100%	0.0	0.0
4. Health related behavior	Correlation .36 p=.802			
	• Healthy	0.0	100%	100%*
	• Non healthy	100%	0.0	0.0
5. Self-efficacy :	Correlation .072		p=.621	
	• Efficient	0.0	100%	0.0
	• Not efficient	100%	0.0	100%*

Table 4: Pearson Correlation of mothers' education and the studied subjects health literacy domains.

Health literacy domains	Mothers education			
	Basic 16%	University 34%	Post 4%	Not educated 46%
Health related knowledge :	Correlation .368**		P=.009	
	• Good.	25%	82%	100%*
	• Poor	75%	18%	0.0
Health related communication	Correlation .499**		P=.000	
	• Good.	13%	88%	100%*
	• Poor	87%	12 %	0.0
Health related attitude:	Correlation .570**		p=.000	
	• Important .	38%	94%	100%*
	• Not important.	62%	6%	0.0
Health related behavior	Correlation .510**		p=.000	
	• Healthy	25%	82%	100%*
	• Non healthy	75%	18%	0.0
Self-efficacy :	Correlation .466**		p=.001	
	• Efficient	13%	88%	100%*
	• Not efficient	87%	12%	0.0

\*\*. Correlation is significant at the 0.01 level (2-tailed)

Table 5: Pearson Correlation of fathers' work and the studied subjects health literacy domains.

Health literacy domains	Fathers' work			
	Governmental 34%	Not work 42%	Farmer 12%	Engineer 12%
1. Health related knowledge :	Correlation .250		p=.080	
	• Good.	82%	5%	33%
	• Poor	18%	95%*	67%
2. Health related communication	Correlation .220		p=.124	
	• Good.	88%	10%	0.0
	• Poor	12 %	90%*	100%
3. Health related attitude:	Correlation .140		p=.320	
	• Important .	82%	5%	0.0
	• Not important.	18 %	95%*	100%
4. Health related behavior	Correlation .435		p=.035	
	• Healthy	76%	5%	0.0
	• Non healthy	24%	95%*	100%
5. Self-efficacy :	Correlation .135		p=.350	
	• Efficient	71%	5%	0.0
	• Not efficient	29%	95%*	100%

Table 6: Pearson correlation of mothers' work and the studied subjects health literacy domains.

Health literacy domains	Mothers' work		
	Governmental 36%	Farmer 10%	Not work 54%
1. Health related knowledge :	Correlation .634**	p= .000	
	• Good.	89%*	10%
	• Poor	11%	90% 93%*
2. Health related communication	Correlation .647**	p=.000	
	• Good.	82%*	0.0 11%
	• Poor	18%	100% 89%*
3. Health related attitude:	Correlation .602**	p=.001	
	• Important .	83%*	0.0 2%
	• Not important.	17%	100% 98%*
4. Health related behavior	Correlation .634**	p=.000	
	• Healthy	82%*	0.0 0.0%
	• Non healthy	18%	100% 100%*
5. Self-efficacy :	Correlation .560**	p=.003	
	• Efficient	85%*	0.0 4%
	• Not efficient	15%	100% 96%*

\*\*. Correlation is significant at the 0.01 level (2-tailed).

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:  
<http://www.iiste.org>

## CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

## IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library , NewJour, Google Scholar

